

ANNOTATED LIST OF THE DIURNAL LEPIDOPTERA OF SAN DIEGO COUNTY, CALIFORNIA, BASED ON COLLECTIONS DURING 1906 AND 1907.

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In the following paper I attempt to give a list of the known butterflies of San Diego County with notes on my personal observations. A complete list would be impossible under the circumstances, and this is offered as a nucleus for a fuller, more complete one to be prepared at some future time as further explorations and collections shall add to our knowledge.

Since the territory covered by my collections lies wholly within the lower austral life zone a discussion of life areas is not attempted.

In the spring of 1906, Mr. George Field and myself began a systematic collection of material for this paper. At first our efforts were confined to the immediate vicinity of San Diego city. A large amount of material was collected and mounted. A casual study showed that the region is full of interest to the student and that there are many species not previously credited to this locality. This fact led us at once to extend our territory to include the whole county as nearly as possible. Being unable to visit every portion of the county during the best collecting seasons, we were very fortunate in having the considerable collections of Mr. and Mrs. Frank Stephens for reference and comparison. This material has been collected at various times during the last fifteen years and much of it came from localities that our limited time made it impossible for us to visit.

In July, 1906, we collected over a strip of territory approximately twenty miles wide along the Mexican border from the ocean to the edge of the desert. On this trip we took some twenty-five hundred specimens among which we found one new species since described by Dr. Henry Skinner as *Thecla loki*.

In 1907 Mr. Field went over the same ground and then made a detour to the north, visiting the mountains about the Cuyamaca. Many interesting "finds" were recorded, among them *Thecla ines*,

which has been called "the child of the desert." Our record, however, shows that its habitat is not confined to strictly desert regions.

The sequence of the following list is in accordance with that of Bull. 52, U. S. N. M. The numbers in parentheses refer to the numbers of that list. W. G. Wright's "West Coast Butterflies" has been our principal guide in identification. Some doubtful species have been referred to Dr. Skinner and others.

1. **Papilio eurymedon Boisduval** (9).

This beautiful swallow-tail may often be seen in the early morning floating leisurely along over the flowers and shrubs in the cañons. It is not very common in any one place but is found all the way from the coast to the mountains.

2. **Papilio rutulus Boisduval** (10).

In the summer of 1906 this butterfly was particularly plentiful. I took a few specimens in the vicinity of San Diego early in the spring and later, in July, I captured them in large numbers at Barret's Dam, back in the mountains. It is common wherever the willow grows. Mission Valley, in the immediate vicinity of San Diego, is a good collecting ground for this butterfly during its season.

3. **Papilio zolicaon Boisduval** (18).

From early spring to late summer this beauty sports about on the hillsides in its favorite haunts. In September its larvæ may be found feeding on a species of wild carrot that grows plentifully in waste places. It is said to be very abundant in April on the Coronado Islands about twelve miles off the coast, though I have never collected it there.

4. **Laërtias philenor Linnæus** (23).

Very rare. One specimen was taken by one of my school boys in the City Park near Date Street during 1906. So far as I know this is the only record of one taken in San Diego. I am told that the larvæ were imported some years ago from San Francisco by Mrs. Katherine Brandege. Its food plant — *Aristolochia californica* — is not known here except in cultivation.

5. **Pontia protodice Boisduval & LeConte** (37).

I have seen this little "white" in great numbers in this city during the early summer and have taken it sparingly in the back country in July.

6. **Pontia rapæ Linnæus** (40).

This pest is common here as it is everywhere in the United States.

7. **Nathalis iole Boisduval** (41).

Not a rare insect in this locality. It may be found in May and June in Switzer's Cañon in the city. It also occurs throughout the back country and in the mountains up to 3,500 feet altitude. *Iole* flies low and is usually found in some dry, stony place or flying along the road or path. Its flight is rather swift but as it always flies in a straight line it is not very difficult to capture.

8. **Synchloe cethura Felder** (47).

I have taken but few specimens of this butterfly in the immediate vicinity of San Diego. There seems to be no particular place where it may be found, but it may be seen in cañons and on the higher ground as well during late spring.

9. **Synchloe reakirtii Edwards** (49a).

Mission Valley seems to be the metropolis of *reakirtii* in this vicinity. During the spring of 1907 it flew there in thousands. It may be taken also in almost any cañon about the city. *Sara* is said to occur at Pacific Beach (Wright's "West Coast Butterflies"), but I have never taken it there or anywhere else in San Diego County.

10. **Callidryas eubule Linnæus** (52).

Eubule is quite common about flower gardens. There seem to be two forms of this butterfly in this region. Among the males a few are found that have a considerable number of spots on the under side of the wing, and there is occasionally found an individual having few or no spots at all. Mr. Wright, in *West Coast Butterflies*, assigns the former to the species *sennæ* Linnæus, of which he says: "Taken by me at Mazatlan on the west coast of Mexico; it is not known in this part of the country, but is liable to be found at Yuma and along the Colorado River, if there is any plant there for it to feed upon." The greater number of specimens taken about San Diego are referable to *sennæ* provided that the specimen figured by Mr. Wright represents a valid species. I am informed by Mr. Victor L. Clemence, of Pasadena, that he has taken a specimen of *sennæ* at that place. Albinistic females are found occasionally but are not common in this vicinity.

11. **Zerene eurydice Boisduval** (60).12. **Zerene bernardino Edwards** (60a).

Both of these forms have been taken by me in the city of San Diego. In July, 1906, I took both also at Cottonwood Creek in the

mountains. Neither form seems to be plentiful in this region though they cannot be said to be rare. *Amorpha californica*, on which the larvæ feed, grows quite plentifully in Mission Valley.

13. **Eurymus cæsonia Stoll** (61).

One fair specimen was taken in Devil's Cañon, near Jacumba, during July, 1906, by Mr. Geo. Field. So far as I am aware, this is the only specimen ever taken this side of the desert. It should occur along the Colorado River in what is now Imperial County.

14. **Eurymus eurytheme Boisduval** (65).

15. **Eurymus ariadne Edwards** (65a).

16. **Eurymus keewaydin Edwards** (65 syn.).

These species are quite confusing to the amateur and I am not at all clear in my own mind about them. The form *eurytheme* occurs only late in the season, *ariadne* occurs only early in the season, and *keewaydin* may be found from early spring to late in the fall. During 1906 I captured and spread some 150 or more specimens of these species and on close study found that they intergraded so closely that it was practically impossible to say where one form ended and the next began. Of *ariadne* I had but three specimens of which I was certain; of *eurytheme*, less than twenty, while all the rest were either *keewaydin* or intergrades. The latter were taken as early as March 10, and as late as November 10. In 1907 I took one *keewaydin* on February 9. Wright's "West Coast Butterflies" has been my guide in separating these species, and I am inclined to think with him that *keewaydin* is the stem of the species and that *eurytheme* and *ariadne* are but varieties. Albinistic females in both *eurytheme* and *keewaydin* were very common during 1906, but I have not seen so many this year.

17. **Eurymus harfordi Hy. Edwards** (67).

One of the commonest butterflies to be seen in the mountains of this region is *harfordi*. In July, 1906, we saw it in thousands flying among the brush on the hillsides, along the river banks, on the mesa, in fact, it seemed to be everywhere. It is a difficult insect to catch. It is swift in flight, seems to be very powerful on the wing and is seldom seen at rest. We were able to get but few, though at times the individuals were so plentiful that we took them from the wagon while traveling.

18. **Pyrisita mexicana Boisduval** (81).

So far as I know but two specimens of this species have been

taken in this region of late years. Mr. Geo. Field took a pair at Lakeside in the spring of 1906.

19. **Eurema nicippe** Cramer (83).

Nicippe is said to be quite common during the summer in the mountains; however, I do not know this from my own observation. It is not at all common on the coast, though single specimens are sometimes taken.

20. **Agraulis vanillæ** Linnæus (91).

In the fall of the year this butterfly may be seen in considerable numbers wherever the passion vine is grown. It is quite variable in size in this locality.

21. **Argynnis callippe** Boisduval (116).

I have never taken *callippe* in anything like large numbers in this locality. Whatever specimens are taken here are probably strays. It is undoubtedly a valley butterfly but its home is probably back from the coast some distance though at no great elevation. About a dozen specimens have been taken here in the last two years.

22. **Argynnis semiramis** Edwards (124).

During the year 1906 I took a few specimens of this species in a little valley some ten miles east of Campo. It was also taken in considerable numbers at Morena Buttes. Mr. Geo. Field tells me that he saw it in hundreds on Volcan Mt. this year. It was found for the most part on the tall brakes and ferns that abound in that locality.

23. **Lemonias chalcedon** Doub. & Hewit (148).

I have but two specimens of this butterfly taken in Switzer's Cañon in the eastern part of the city during 1906. Early in the spring of this year one of my school boys took two females on the hill just above the bridge that crosses this cañon at University Ave. These are all that I have seen in two years.

24. **Lemonias quino** Behr (154).

There is some difference of opinion in regard to this species on this coast. It is published in Wright's "West Coast Butterflies" as *Melitea augusta* Edwards; however Mr. Fordyce Grinnell, who has studied the species from specimens furnished by me, has pronounced it *L. quino* (vide Canadian Entomologist, Vol. XXXIX, p. 380). *Quino* (?) occurs in this locality in great numbers during the early spring. An occasional aberration (*M. augustina* Wright) is found among the males. Two were taken in the spring of 1907.

25. **Lemonias gabbi** Behr (167).

Common during its season (spring) in the cañons about the city. It likes to fly close to the ground along the dry washes in the bottom of the cañon and is comparatively easy to capture.

26. **Thessalia wrighti** Edwards (176).

Rare. July 4, 1906, I took two females at Jacumba. One male was taken near the city some time in June. Early in July of this year Mr. Geo. Field took two female specimens at Jacumba. So far as I am aware these are the only records for San Diego County.

27. **Chlosyne californica** Wright.

This is also a rare species. I have one specimen taken July 4, 1906, in a small cañon between Jacumba and Mountain Springs. It is properly a desert species.

28. **Polygonia satyrus** Edwards (207).29. **Polygonia satyrus marsyas** Edwards (207a).

Wright says: "The West Coast Graptas (*Polygonia*) appear to go in pairs of species or that two similar species of each type are found, these two closely resemble each other, and being widely different from any others." This will probably account for the finding of the above two (?) species last summer in the willow copses near Campo. They were also seen at the foot of Volcan Mt.

30. **Eu Vanessa antiopa** Linnæus (217).

Common here as everywhere. Where willow grows there *antiopa* abounds.

31. **Vanessa atalanta** Linnæus (219).

This cosmopolitan is found but sparingly throughout this region. An occasional specimen may be taken in the cañons, but it is rather difficult to capture.

32. **Vanessa huntera** Fabricius (220).

Quite common in the cañons about the city. It may often be found flitting about some dry, barren spot near a bush or tree on the brow of a hill. In such places it is easily captured. When flying through the weeds or among flowers it is wary and not easily taken. It occurs sparingly in the mountains.

33. **Vanessa cardui** Linnæus (221).

Very common throughout the region, occurring in early spring and late summer. During the spring of 1907 large numbers were seen

flying through the city in a northwesterly direction. The flight continued for several days.

34. *Vanessa carye* Hübner (222).

The "California painted lady" is to be seen in some numbers as early as February and continues to fly until cold weather. The larvæ may be gathered as soon as *Malva rotundifolia* begins to put out its leaves. It is easily bred and has many generations in a year.

35. *Junonia cœnia* Hübner (223).

One of the commonest butterflies of this region is *cœnia*. It is abundant from the coast to the tops of the mountains. Mrs. Katherine Brandegee reared it in considerable numbers from larvæ gathered at Cuyamaca Lake at an elevation of nearly 5,000 feet. *Cœnia* has been considered a valley butterfly (West Coast Butterflies), but this record will place it among the mountain species as well.

36. *Basilarchia lorquini* Boisduval (242).

This beauty may be found among the willows along the water courses from the coast to the mountains and is quite common.

37. *Limenitis californica* Butler (243a).

Very abundant about the oaks back from the coast. It is also found occasionally in the valleys near the coast. Among the oaks it is a high-minded creature, keeping well toward the tops of the trees out of harm's way, and is therefore rather difficult to capture. It is pugnacious and will fly after anything that comes too near; it will follow clear to the ground a stick or stone that is thrown into the air. In this way the insect may often be brought within range of one's net.

38. *Cercyonis paulus* Edwards (262).

Common under the oaks at an elevation of about 2,000 feet or higher. It also occurs sparingly amongst the brush on the open mesa.

39. *Cœnonympha californica* Doub. & Hewit (279).

This is a very confusing species; it is also a very common one. Wright figures five forms, ranging from San Diego County to Mendocino County all of which "are very much alike, being, perhaps, seasonal or local subspecies or varieties of the same stock, being similar on the upper side, and only minor differences appearing on the under side, and all the features are in good degree variable, and merge into one another. . . . *Californica* is sometimes called the summer form. I would rather call it the northern form, as it is com-

mon in central California but does not appear in the southern part of the state at all."

The species interested me and during 1906 I took and spread over 200 specimens between February 15 and September 1. The darker forms, perhaps, predominated early, though I took as dark specimens in July and August as in February. The ocelli varied from none at all on either wing through all the combinations to the characteristic two on the primaries and six on the secondaries, and a few had twinned spots on the outer angle of the primaries. The colors ranged from buff to deep yellow and from light gray to almost black. Nearly every species except *pulla* that Wright figures in his book was easily distinguishable. Wishing better authority than my own judgment, I sent a representative series to Dr. Henry Skinner who pronounced them *californica* without comment. Dyar, in Bull. 52, U. S. N. M., recognizes but two forms, *californica* and *pulla* — Smith's list adds *galactinus* to the list of forms; but I am inclined to think that all the species of Wright's list, with the exception of *pulla*, should be relegated to the synonymy of *californica*, as Dyar has done. In this county, *californica* ranges from tidewater to the mountains, being very plentiful at Witch Creek at elevations of between 2,750 and 4,000 feet.

40. **Anosia plexippus Linnæus** (308).

Common throughout this region. A slight difference in the color of the four spots on the outer angle of the primaries is seen. In specimens taken on the coast they are light brown, almost white, while mountain specimens show the spots much darker, the color being decidedly brown.

41. **Anosia strigosa Bates** (309).

This form is common in this region from the coast to the desert. I took it in considerable numbers in the Sweetwater Valley near Dehesa during July, 1906.

42. **Chrysobia virgulti Behr** (316).

This little fellow flies in thousands about the wild buckwheat (*Eriogonum*) during the whole season. The later specimens seem to be a little lighter in color and the females a little smaller.

43. **Calephalis australis Edwards** (322).

Though not very plentiful in this locality, *australis* cannot be considered rare. It is most often found flying about in the brush border-

ing a stony wash in the bottom of a cañon. In Mission Valley it flies among the tall weeds quite plentifully during August and September. Its habit of flying close to the ground makes it a rather difficult capture.

44. **Habrodias grunus Boisduval** (327).

One specimen taken near Campo in July, 1906, appears to answer to the description of this species. However, the damaged condition of the specimen makes it a little doubtful. Taken in some numbers on Volcan Mt., July, 1907.

45. **Atlides halesus Cramer** (329).

Four specimens, three males and one female, were taken in Jacumba Valley during July, 1906. This is evidently the extreme western edge of its range.

46. **Uranotes melinus Hübner** (335).

Quite common about the city from late spring to late summer. One rarely sees more than one or two at a time.

47. **Thecla dryope Edwards** (343).

Very common along the water courses from the coast to the mountains. I have taken as many as twenty-five in half an hour, and during the spring of 1907 they were very thick on the flowers of *Amorpha californica* in Mission Valley.

48. **Thecla sæpium Boisduval** (354).

This fiery little fellow flies in great numbers about the greasewood from the coast to the mountains. It is particularly plentiful at the higher altitudes.

49. **Thecla adenostomatis Hy. Edwards** (356).

The only place in or near the city that I have ever seen this insect is in a cañon just west of the State Normal School. It flies in great numbers among the foothills back from the coast where *Adenostoma fasciculata* abounds.

50. **Thecla loki Skinner**, 1907 (not listed).

Mr. Geo. Field and myself took about twenty specimens of this butterfly in July, 1906, near Jacumba. It was flying about the Juniper trees at about 3,500 feet elevation. Dr. Henry Skinner has described it in an article published in *Entomological News* for November, 1907.

51. **Callicista columella Fabricius** (366).

Only five of these little beauties have fallen to my net in the last two years, and these were taken on the alfalfa blossoms in my front yard in August, 1906. The species may be more plentiful back from the coast.

52. **Callicista ines Edwards** (369).

In July, 1907, Mr. George Field was collecting at Jacumba and took a number of these desert beauties. They seemed to be quite plentiful but owing to the short time he was there he failed to get a very large series of them. This is the most western record for *ines* that I have been able to find. The locality is semi-desert and is subject to the same general climatic conditions as the desert only a few miles away, and one would naturally expect to find *ines*, if at all, at the same time as farther east, viz., October, but here we find it plentiful in July. I believe, therefore, that we are safe in supposing that there are two broods, one emerging the latter part of June, the other in October.

53. **Incisalia iroides Boisduval** (372).

During the early spring of 1906 I took one specimen of this species in the city. It has been taken sparingly in other parts of the county but does not seem to be plentiful anywhere in this locality.

54. **Callophrys dumetorum Boisduval** (380).

San Diego specimens are somewhat smaller than those taken in the mountains, but the markings are typical of the species. Nine specimens fell to my net on the hill above Powder-house Cañon in the City Park during February and March, 1907. The species is said to be very abundant in San Felipe Cañon near Julian.

55. **Tharsalia virginiensis Edwards** (387).

This species occurs in the valley about midway between Campo and Jacumba where I have taken a few specimens. Mr. George Field took a large series of them on Volcan Mt. in July, 1907.

56. **Tharsalia hermes Edwards** (388).

This beauty may be taken sparingly in the cañons to the north and east of the city during June. It also occurs in the Grapevine Cañon at an altitude of about 2,500 feet. *Hermes* is a very delicate insect and difficult to capture in perfect condition. Mr. Wright, in "West Coast Butterflies," describes this as a new species under the name *del*

sud. He was unfortunate in having but a single much-worn specimen at the time from which to describe the species and may therefore be pardoned. But the original description by Edwards is so clear and the individuality of the species so marked that it seems necessary to relegate *del sud* to the waste basket of synonymy. I have taken *hermes* now for two years and have examined and studied nearly one hundred specimens—good and bad—and there is not the slightest doubt that it is *hermes* and not *del sud*.

57. **Gæides xanthoides Boisduval** (389).

Xanthoides occurs in the mountains and among the foothills in considerable numbers. It is easily taken and is probably most often found on the *Eriogonum*, or wild "buckwheat."

58. **Gæides gorgon Boisduval** (392).

Gorgon is evidently a mountain butterfly, only an occasional one being taken in the lower valleys. In July, 1906, I took a few specimens in the mountains beyond Campo, and this current year Mr. George Field took it in some numbers on Volcan Mt.

59. **Epidemia helloides Boisduval** (396).

A common butterfly everywhere. Most frequently found about low damp places.

60. **Nomiades polyphemus Boisduval** (418 syn.).

This is the butterfly that is figured in West Coast Butterflies as "*Lycæna antiacis*." Mr. Fordyce Grinnell, of Pasadena, however, has given much time to the study of the group and he assures me that it is *polyphemus*. It certainly differs much from the *antiacis* of the region of San Francisco where Boisduval's types were taken.

61. **Philotes sonorensis Felder** (423).

Only three specimens of this beautiful little butterfly have been taken in this locality recently, one at La Jolla, one in this city and one at Lemon Grove. It is said to have been abundant some years ago in the cañons about Bonita in the Sweetwater Valley, and I am told that it has been collected at Point Loma.

62. **Rusticus glaucon Edwards** (428).

A very common little "blue." It occurs in considerable numbers almost anywhere from the coast to the mountains.

63. *Rusticus battoides* Behr (429).

So far as I am aware but one specimen of this butterfly has been taken in this locality. It was taken by Mr. George Field at Jacumba in July, 1906. *Battoides* and *glaucan* may be quite easily confused by one not familiar with both, and I have seen at least one large series of *glaucan* that had been called by the former name. I am convinced, however, that the species most commonly found in this locality is *glaucan* and not *battoides*. That *battoides* does occur is quite certain, but I am inclined to the belief that it is confined to the more elevated regions back from the coast.

64. *Rusticus melissa* Edwards (431).

Melissa is a very common "blue" in this locality if you know where to look for it. Mission Valley is fine collecting ground for it. At Morena Dam, in July, 1906, it was so thick in a little valley near the dam that I took over a hundred specimens one evening after sundown, picking them off the grass with my fingers, no net being necessary. The specimens in Mission Valley are a little smaller than those taken in the mountains.

65. *Rusticus acmon* Doub. & Hewit (434).

At times *acmon* is very common here, though this year it has been rather scarce. It frequents the sunny hillsides, and is not uncommon in Mission Valley where it likes to fly about a species of *Hosachia*. It is quite variable in depth of color and also in size. Some specimens are almost as large as *melissa*. The larger specimens are usually considerably darker than the small forms.

66. *Cyaniris ladon* (var.).

One specimen taken in July, 1906, at Grapevine Cañon.

67. *Everes amyntula* Boisduval (441).

Amyntula is quite common in the cañons about the city, especially where the "rattle-weed" grows. I have also one specimen and Mr. George Field has two of a butterfly that has all the appearance of *amyntula* without the tail. These specimens were taken in a cañon just back of St. Joseph's Hospital and were supposed to be *amyntula* when taken.

68. *Hemiargus isola* Reakirt (444).

One somewhat damaged specimen taken at Jacumba, July, 1906.

69. **Hemiargus hanno** Stoll (447).

This little "blue" occurs sparingly at San Diego and is taken unexpectedly as a rule. It has much the same habit as *Leptoles marina* and will probably be called *marina* until closer observation discloses the three characteristic black spots at the base of the secondaries. It has a wide range — being taken all the way from the coast to the mountains.

70. **Brephidium exilis** Boisduval (450).

This is an interesting little species for besides being the smallest butterfly in this locality it is also the most plentiful. It is most abundant in July and August but may be seen almost every month in the year. Wherever the salt grass grows there you will find *exilis*.

71. **Leptoles marina** Reakirt (451).

From June to September *marina* may be seen flitting about the bushes in the cañons, on hillsides, and in flower gardens. The edge of an alfalfa field also presents fine possibilities for an enthusiastic collector. *Marina* is a very active insect and one is often disappointed that his specimens are not such as he would like for his cabinet, but a little perseverance will result in some fine captures.

72. **Megathymus neumægeni** Edwards (457).

One badly worn specimen was taken some years ago in Switzer's Cañon in the city park. So far as I know this is the only specimen ever taken this side of the Colorado desert. Mr. Frank Stephens has taken *neumægeni* in some numbers on the edge of the desert in this county. *Neumægeni* is a swift and powerful flier, and it is likely to lead an enthusiastic collector a lively chase.

73. **Copæodes wrighti** Edwards (476).

Wrighti is properly a desert skipper but may be taken sparingly in the mountains near the city. Volcan Mt. would be a good place to hunt for it.

74. **Anthomaster nemorum** Boisduval (506).

A common butterfly about San Diego during the early summer.

75. **Anthomaster pratincola** Boisduval (510).

Rather common during the early summer in and about the city. Some very fine specimens were taken May 30, 1906, at Point Loma.

76. *Hylephila campestris* Boisduval (512).

This is one of the larger "brown skippers" and, owing to the difference in appearance between the male and female, is somewhat confusing. It is common along low ground in the mountain valleys.

77. *Hylephila phylæus* Drury (515).

One is quite likely to take *phylæus* on lawns in the city, though its habitat is properly along some damp, grassy wash. It is the largest "brown skipper" in the immediate locality and is very common during its season, June to September.

78. *Polites sabuleti* Boisduval (525).

A very interesting form; evidently a coast butterfly as I have never seen it elsewhere than in San Diego city. Not very common.

79. *Prenes errans* Skinner (549).

Probably more plentiful than any other butterfly of this region during its season. In favorable localities along the bay shore it flies in great numbers. Some idea of its abundance may be gained when it is known that a collector can net two hundred in a couple of hours if he attends to his business. June to October.

80. *Eudamus proteus* Linnæus (577).

Until 1906 this species was practically unknown in this region. During the summer of that year it appeared in considerable numbers in the eastern part of the city. I took a few specimens in Mission Valley. It has not appeared again this year, 1907, to my knowledge.

81. *Epargyrus tityrus* Fabricius (584).

Tityrus is not common in San Diego. It is, however, occasionally seen in some almost inaccessible place in a deep cañon but is rarely taken. I have seen one in two years and know of two others having been taken.

82. *Thanaos clitus* Edwards (633).

Very common from tidewater to the mountains. In San Diego it is met with in almost every cañon. In the mountains it frequents the wild sunflowers in large numbers and is easily taken.

83. *Hesperia ericetorum* Boisduval (639).

Ericetorum is a strong flier and shy. It is rarely seen and more rarely taken. *Malvastrum thurberi* is its food plant and where this plant grows *ericetorum* is most likely to be found.

84. *Hesperia tessellata* Scudder (642).

Probably the commonest member of its family in this region. It flies from early spring until late in the fall and may be taken almost anywhere.

RECAPITULATION.

This list includes 84 species scattered through 54 genera. Of these, 61 species in 42 genera are to be found in the immediate vicinity of San Diego city.

Fairly good collecting may be had in and about the city as early as the middle of February and as late as the middle of November. The best months are March to September inclusive, and I judge that the same limits will apply to the mountains as well except at the higher altitudes. Probably the best time for a trip to the mountains would be in May, June, or July, while for desert collecting March or April would be the best months.

NEW NORTH AMERICAN TORTRICIDÆ AND TINEINÆ.

BY W. D. KEARFOTT,

MONTCLAIR, N. J.

***Eucosma dorsisuffusana*, new species.**

Expanse 17.5-24 mm.

Head dark chocolate-brown, face blackish; palpi cream-white inside, dark bronzy-brown outside, apical joint short, obtuse, dark gray; antenna blackish gray, faintly annulated with whitish; thorax dark gray-brown mottled with ochreous brown; abdomen light fuscous; legs cream-white, shaded with ochreous brown and dark brown.

Forewing.—Inner third and upper half transversely strigulated with grayish brown and black, with a shade of bright brown between the black lines before the dorsal spot and on the outer half of costa. The lower half of wing, from inner third to termen is cream-white, the usual dorsal spot running into the white ocellic area, the latter reaches to within a quarter of the costa, and is rounded on top; the brown ground color sharply defines this white area and by an angulation downward at outer third outlines the upper side of the two spots. Before the ocellic space are a few dark brown scales on the white ground. Between middle and apex the costa is marked with five pairs of outwardly oblique cream-white dashes, each ending below costa in a few light blue metallic scales, from the second pair before apex the line of metallic scales continues to termen, a third below apex; between these costal